

Environmental & Regulatory Services Division
Bureau of Petroleum Products and Tanks
201 West Washington Avenue
P.O. Box 7837
Madison, WI 53707-7837

Wisconsin COMM 10 Material Approval

Equipment: Petro First Unitized Tanks

Manufacturer: Petro First
1811 N.W. 16th St.
Pompano Beach, FL 33069

Expiration of Approval: December 31, 2007

SCOPE OF EVALUATION

The Petro First Unitized Tank with integral support column connections, has been evaluated in accordance with the NFPA 30-2000 edition, NFPA 30A-2000 edition, and the current edition of Chapter Comm 10, the Wisconsin Flammable and Combustible Liquids Code.

This approval is for the tank and integral column support connection design only.

DESCRIPTION AND USE

The Petro First tank is an Underwriter's Laboratory Listed UL 58, secondarily contained underground storage tank. The tank construction is of double wall steel composed of either a steel primary tank shell encapsulated by a steel secondary tank shell or a jacketed steel tank composed of a steel primary tank shell encapsulated by a fiberglass secondary shell. All product piping and related connections are seal welded and tested, and are contained in a seal welded steel trough at the top of the tank. The trough provides for containment of all product piping and is welded to the primary tank shell in addition to having a seal welded cover. This provides for complete secondary

containment of all piping. The entire tank and trough is protected from corrosion by a UL approved fiberglass laminate system that meets all the criteria in the UL 1746 standard. The dispenser and pump sumps are mounted directly to the top of the trough, and then sealed with epoxy to form a liquid tight secondary containment.

The integral support column connections are constructed of ASTM A-36 carbon steel. The canopy support column connections have been structurally designed, physically tested, and UL listed for loads associated with the canopy attachment, including the effects of gravity, wind, snow, seismic conditions, and vehicular impact. The support column connections are not attached directly to the primary/secondary shell, as they are welded to a reinforcing band that is wrapped around and welded to the tank. Shear bolts are used to attach the canopy support column to the tank mounted support column. These are designed to break if the canopy support is impacted by a vehicle, thus preventing damage to the tank and/or support column connection.

TESTS AND RESULTS

The Petro First unitized UL 58 tank with integral support column connections was tested and approved by Underwriters Laboratory. Each tank and trough undergoes a 3-5-psig-air test following production. The tank and trough are then shipped to the jobsite with a minimum vacuum of 8 in. of hg. The integrity of the vacuum is again confirmed after backfilling. Other tank integrity tests are performed per the requirements of NFPA 30 and/or PEI-RP-100, "Recommended Practices for Installation of Underground Liquid Storage Systems".

LIMITATIONS / CONDITIONS OF APPROVAL

- No dispensing shall be allowed while filling the tank from a transport truck.
- The tank interstitial space shall be monitored for leaks. The monitor must be capable of detecting a leak from anywhere in the inner or outer tank.
- On each end of the trough, a monitoring sensor shall be provided to detect piping and/or trough leakage. The monitor shall be capable of detecting hydrocarbon or water ingress from anywhere in the trough.
- The dispenser and pump sumps shall be monitored for the presence of hydrocarbon or water ingress. The monitor must be capable of detecting a leak from anywhere in the sump.
- Fire-rated listed flex connectors shall be used in those locations as specified by Comm 10.51(3)- July 2002 edition.
- Access to all connections between the tank and the piping, venting, and appurtenances that require maintenance or replacement shall be provided. The means of access shall be sufficient in size to allow installation, maintenance, and inspection of all system appurtenances.

- No attachments shall be made to the tank that will violate or void the UL Listing.
- The tank system operator is required to maintain the system components according to the respective manufacturer's guidelines.
- An underground storage tank installer certified by the department in accordance with **Comm 5.85** shall supervise the installation. A leak test shall be performed on-site by the installer prior to installation approval.
- **This approval is for the tank only and does not include the canopy.** Plans, specifications, and calculations for the canopy shall be submitted for review and approval prior to installation to the building official in the jurisdiction in which the installation is occurring. These documents may require the seal of a Wisconsin registered architect, engineer or designer.
- The column loads from the canopy, if installed in conjunction with the tank, shall not exceed that specified in the data submitted for this approval for downward, uplift, and overturning loading.
- The impact load resistance canopy support column shear connection and concrete slab system specified in Appendix I of the data submitted for this approval shall be used in all installations.

This approval will be valid through December 31, 2007, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval addresses only the specified applications for the product and does not waive any code requirement unless specified in this document.

Reviewed by: _____
Greg Bareta, P. E.
Engineering Consultant
Bureau of Petroleum Products and Tanks

Approved by: _____ Date: _____